

1 **ABSTRACT OF THE DISCLOSURE**

2 An over-voltage protection coil control circuit has at least one coil driving
3 circuit, wherein an over-voltage protection circuit is connected to the at least one
4 coil driver circuit. The at least one coil driver circuit consists of a transistor. The
5 over-voltage protection circuit is composed of a Zener diode connected to a power
6 supply and the at least one coil driver circuit. When the coil generates a high inverse
7 emf (electromotive force) due to the inversion of its polarity, the Zener diode
8 conducts and guides the high voltage inverse emf to the power supply.